



 Proudly Made in Canada

# WELL SITE GUARD™

## SUPERIOR STUFFING BOX CONTAINMENT

U.S. PATENTED

### WELL SITE GUARD, INDUSTRY SPECIFIC, PRECISION ENGINEERED AND QUALITY MANUFACTURING

- Utilizing prevention technology enables companies to reduce their environmental impact directly at the source.
- The surge in hydrocarbon extraction across the United States in recent decades poses a potential risk of leaks or spills.



SPECIALIZING IN ELIMINATING THE COSTS OF STUFFING BOX LEAKAGE



## Why use containment equipment?

- Foster environmental stewardship
- Uphold corporate social responsibility
- Empower operators with a sense of purpose
- Enhance risk mitigation practices
- Bolster investor confidence

## Mitigate operator challenges!

- Prevent stuffing box leaks
- Minimize resource-intensive leak cleanups
- Reduce the potential for regulatory fines
- Safeguard corporate image
- Timely repairs to prevent production setbacks
- Maintain workforce stability and reduce turnover

## Boost ROI for your bottom line!

- Proactively contain leaks to prevent issues
- Allow operators to focus on production
- Ensure strong regulatory compliance to eliminate fines
- Enhance environmental stewardship efforts
- Minimize production downtime
- Preserve earnings

**The expense associated with a minor stuffing box leak can fluctuate depending on various factors.**

- **Oil Type Impact:**  
Different oil types have varying effects on the environment, wildlife, and cleanup operations.
- **Spill Volume and Rate:**  
The cost of a spill is influenced by the volume released and the speed of spillage, even small spills can be costly in sensitive areas or if rapid.
- **Location and Terrain:**  
Cleanup logistics are affected by factors like accessibility, terrain, and proximity to water bodies.
- **Biological Impact:**  
Costs are influenced by the presence of ecosystems, wildlife habitats, and agriculture in the affected area.
- **Economic Factors:**  
The economic value of the impacted region (tourism, fishing, industry) determines compensation and restoration expenses.
- **Weather and Sea Conditions:**  
Harsh weather conditions can impede cleanup efforts and escalate costs, especially during storms and strong currents.
- **Seasonal Considerations:**  
Seasonal variations, such as winter spills facing additional challenges due to freezing temperatures, impact cleanup dynamics.
- **Cleanup Efficiency:**  
Timely and effective cleanup measures can mitigate costs, while delays or inadequate responses lead to higher expenses.





## Pumpjack facts

### Production Output:

Ranges from 5 to 40 liters (1.5 - 10.5 US gal) of crude oil and water emulsion per stroke.

### Operational Efficiency:

Averaging 7 strokes per minute or 10,800 strokes per day, with a typical rod stroke length of 7' to 8' (equal to 85,000 feet of travel per day).

### Maintenance:

The stuffing box, featuring replaceable packing seals, is designed to endure repetitive rod travel and prevent significant leakage.

### Seal Replacement:

Packings are replaced every 3 - 12 months, contingent on the pumped oil emulsion, to mitigate increased leakage potential with worn seals.



Well Site Guard Ltd  
110 - 12318 Barlow Trail NE  
Calgary, AB T3N 2A9 Canada  
Toll Free: 1 (888) 862-0060



Rob Harrison  
Director of Business Development



## More pumpjack facts

- USA well fluid ratio is approximately 10-12:1 (water to oil)
- In 2018, the USA produced 15 million barrels of oil, accompanied by 184 million barrels of produced water
- Detecting 1 drop of oil every 10 seconds is challenging
- 1 drop equals 18.25 oz in 24 hours, totaling 415 US pints (196 liters) annually
- USA has 900,000+ active wells
- If 15% of wells seeped at 1 drop/10 sec, it would result in 5.5 million US pints (150,000+ barrels) of oil annually
- Operators diligently address daily leaks, impacting productivity, maintenance expenses, and employee safety
- Questioning the avoidable costs associated with these challenges.

## Stuffing Box Seal Repair



- **Unplanned pump shutdown for stuffing box seal repair leads to production loss and associated costs, including:**
  - **Site and equipment cleaning:**  
Removal of spilled oil, necessitating cleaning efforts.
  - **Third-party services:**  
Hiring specialized companies for cleaning tasks.
  - **Vacuum and steamer/pressure trucks:**  
Utilized for efficient cleanup operations.
  - **Specialty waste hauling:**  
Ensuring proper disposal of contaminated materials.
  - **Ground surface reclamation:**  
Restoration of the affected area.
  - **Contaminated soil removal:**  
Proper disposal of soil tainted by the spill.
  - **Potential regulatory fines:**  
Violations may result in significant financial penalties.



How much does it really cost to clean an oil spill?



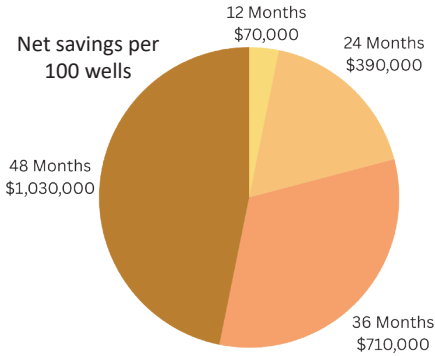
Cleaning up an oil spill comes with a substantial price tag, often exceeding initial expectations.

The seemingly inconspicuous release of a single drop of oil every 10 seconds may go unnoticed, yet over 24 hours, it amounts to 18.25 ounces or 415 pints in a year.

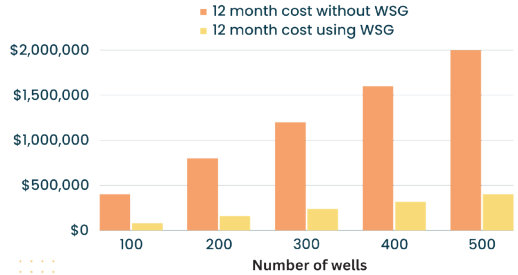
Consequently, the expenses associated with oil spill cleanup accumulate rapidly.

Collaborating with US producers, the comprehensive cost for addressing stuffing box leaks has been calculated to average \$4,000 per well annually.

Through a strategic approach, such as the installation of 100 Well Site Guard units in a production field over 48 months, these costs can be significantly reduced by up to 80%, resulting in potential savings of approximately \$1,030,000.



### COST @ \$4,000 PER WELL



### Cost breakdown for 100 wells

- Remediation costs roughly \$4,000 per well
- Operators spend 80% of their day addressing stuffing box leakage issues
  - Site remediation services
  - Hazardous material disposal fees
  - Clean soil and gravel procurement
  - Well site insurance liability expenses

Remediation costs per year for 100 wells	= \$400,000
Initial Well Site Guard investment for 100 wells	= \$250,000
Remediation costs	= \$400,000
- Cost savings with WSG	x 80%
Total remediation savings	= \$320,000
- Initial investment	= <u>\$250,000</u>
Net savings (first 12 months)	= \$70,000

Cost savings over subsequent 12 month period	= \$320,000/year
<u>Over next 48 months:</u>	
First year savings (WSG initial investment)	= \$70,000
3 years of savings @ \$320,000/year	= <u>\$960,000</u>
Net savings (4 years)	= \$1,030,000

### Return on investment

<u>Over 4 years:</u>	
\$320,000	savings per year
= \$1,280,000	gross savings
\$250,000	initial investment
\$1,280,000	gross remediation savings
= 1:5	return on CapEx investment

